# Leveraging Investment in hiGHschool Training: Summer Program to Accelerate Regenerative medicine Knowledge (LIGHT a SPARK)

## Grant Award Details

Leveraging Investment in hiGHschool Training: Summer Program to Accelerate Regenerative medicine Knowledge (LIGHT a SPARK)

**Grant Type:** SPARK

**Grant Number:** EDUC3-08399

**Project Objective:** The project objective is to manage the SPARK program that provides 8 week stem cell research internships for high school students. The Program Director was in charge of recruiting students from underprivileged communities, place these students in stem cell research labs at leading institutions in California, and train the students in stem cell science and research techniques. The PDs were also responsible for implementing the CIRM social media guidelines which included having students post pictures about their internship experience on Instagram and write a blog. They also had to coordinate a patient engagement activity where students get first hand experience with patients and what they go through. Lastly the PDs had to coordinate their students attendance at the 2016 SPARK conference, making sure that their poster presentations and speeches were prepared.

**Investigator:**

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| **Name:** | Ellen Fung |
| **Institution:** | Children's Hospital of Oakland Research Institute |
| **Type:** | PI |

**Award Value:** $236,733

**Status:** Active

## Grant Application Details

**Application Title:** Leveraging Investment in hiGHschool Training: Summer Program to Accelerate Regenerative medicine Knowledge (LIGHT a SPARK)

**Public Abstract:**

Children's Hospital & Research Center at Oakland is a private non-profit hospital in Oakland, CA, one of the most socially and ethnically diverse areas of the country. Children's Hospital Oakland Research Institute (CHORI) is highly ranked as one of the top recipients of NIH funding among all children's hospitals.

In 1980 CHORI developed the CHORI Summer Student Research Program, one of the nation's first programs designed to provide research training to students from groups who are underrepresented in the biosciences. Over 600 high school and college students have graduated from the program. The summer curriculum provides hands-on immersion in the scientific process, structured activities designed to stimulate their interest in science, and encouragement to pursue careers in biomedical research. The long term goal of the program is to increase the diversity of bioscience researchers.

The NIH has provided consistent core funding for the CHORI Summer Research Program, which has been supplemented by other sources with interests in specific research topics or populations. The program was a recipient of a CIRM Creativity Award, which was very successful. With continued funding from CIRM, the proposed SPARK program at CHORI seeks to enroll 6 new high school students each year for the next five years. Participants in SPARK will be part of the larger program, which typically has 35-45 funded participants.

For decades, the Summer Research Program has had relationships with dozens of public high schools from which it receives approximately 100 applications a year. After a competitive selection process, top candidates are invited to attend the program.

Like the other students, SPARK trainees will: (a) conduct their own research projects in a lab under the mentorship of an accomplished investigator; (b) attend regular structured seminars, presentations, and discussions intended to impart a strong foundation in the scientific method, biomedical research and lab safety, and provide practical advice on pursuing a research career; and (c) present their research findings publically.

Unique to this program, SPARK students' mentored-internship will focus on stem cell research. CHORI benefits from a strong relationship with the Berkeley Stem Cell Center (BSCC), just a few blocks away. Some trainees will have an opportunity to do their lab work at the BSCC. Additionally, SPARK students will participate in structured patient engagement activities and blog about their experiences throughout the summer. They will also attend on-site presentations that are specific to stem-cell research and will present findings at the CIRM poster day.

Our program's goals are strongly aligned with those of CIRM and SPARK. We have the experience, infrastructure, long-standing connections with local high schools, proven track record and results, and dedicated leadership and faculty to make this program valuable to the students and a worthwhile investment for the citizens of California.

**Statement of Benefit to California:**

Proposition 71 was overwhelmingly approved by the citizens of California and the investment in CIRM was made by all citizens. Not only should all citizens benefit from advancements that come from CIRM but ideally future scientific contributions will be made by individuals who represent the full diversity of the state. On a practical level, there is an abundance of evidence that individuals from certain minority groups and those from lower-income backgrounds are grossly underrepresented in the health sciences and in biomedical research. The reasons for this phenomenon are complex, but the result is a relative lack of heterogeneity of perspectives and backgrounds among the professionals conducting the research, and a national research agenda that perhaps does not adequately consider all populations. The Summer Research program at CHORI provides a welcoming environment and encouragement to high school students from underrepresented populations to pursue careers in biomedical research. Ultimately the SPARK program will result in more individuals, from all backgrounds, contributing to advancements in stem cell and translational therapies to help patients in California and around the world who have unmet medical needs.

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